time the plans were released, they are disappointed that a decision was made by the City Corporation to demolish and replace the bridge without regard to the future planning of the roads in central London. They also imply criticism of the design of the new bridge, and of the failure to provide weather protection for commuters who cross the bridge on foot each day to and from London Bridge Station. They complain that "the machinery for consultation on a prime matter of national interest has not been properly used".

RESEARCH ASSOCIATIONS

Uniting for Survival

AFTER twenty-five years in the shadows, the Committee of Directors of Industrial Research Associations (CDRA) will at last be able to represent officially the research associations and their parent industries. In conjunction with the Confederation of British Industries, CDRA has set up a Conference of Industrial Research Associations (CIRA) with the joint aims of providing a forum for the industrial research associations and similar organizations and of creating an effective lobby for the views of the research associations as a whole.

Research associations are sponsored jointly by industry and the Government, and are cooperative bodies tackling problems not ordinarily dealt with by individual industries. CDRA has in the past provided the common ground for discussion between directors of research of the member associations. But this purely informal body could not speak officially for the research associations or the industries they represented; it could express only the personal views of the directors.

The need for a more effective voice in industry and government has been underlined by a considerable hardening in the Government's attitude towards research associations in recent years. The Government's new policy seems to be that more research should be sponsored or undertaken by industrial companies themselves, and that research groups should be self-supporting as far as possible. Research centres and industrial liaison offices have recently been established in universities in line with this policy and the research associations have only themselves to blame if they are left out of the picture. The director-general of one of the more productive associations said he felt that they had been for too long concerned with research for its own sake; they had enjoyed the security of a guaranteed income without being sufficiently tied to the needs of the industry they were supposed to serve.

The role of the research associations seems certain to change in the next few years and in some cases this process has already started. The British Coal Utilization Research Association (BCURA) will cease to have Government support in two years time and will then be run by the National Coal Board as a wholly owned subsidiary, undertaking contracts for industry at large in addition to its own research. This may well become the model for many of the larger research associations. Dr L. C. F. Blackman, BCURA's director-general, said that his staff are now enthusiastic about the new challenge; they have passed the initial stage of apprehension. Many associations already receive commissions from industry, and this will be encouraged; the Electrical Research Association, for example, is supported by the GPO and the BBC in its work on wind pressure and high buildings. Further evidence of rationalization within the associations is demonstrated by the merging of associations with similar research interests, such as the Flour Milling and Baking Research Association.

Dr R. Weck of the British Welders Research Association, which has declined to join CIRA, was pessimistic about the future of the research associations in view of declining industrial and governmental interest, but felt there was a real need for research in areas that would not show an immediate return in profit or innovation. It is possible that sponsorship will soon be available only to those engaged in research which a commercial organization would feel no need to undertake; the work being done by the British Launderers Research Association on effluent control and water conservation is an example. With the future full of uncertainty most of the research associations seem to welcome CIRA as a valuable and much needed innovation. It may be more than that: it may be their last chance to stay in business.

FOREIGN STUDENTS

Less by Definition

WHEN the British Government decided to charge overseas students discriminatory higher fees at the start of the academic year for 1967–68, it redefined what constitutes an overseas student. As a result, it upset the book-keeping of the Association of Commonwealth Universities, for the new definition, which the association will adopt exclusively in the future, differs from that which the association has customarily used when drawing up returns for overseas students. According to the latest statistics, covering 1967–68, the new definition reduced the tally. By the legal definition, there were 16,045 full-time students (13,582 men and 2,463 women) of whom 8,558 came from the Commonwealth. By the old definition, there were 17,835 students compared with 17,659 in 1966–67. But the league tables of countries sending the largest contingents and the distribution of students among the various disciplines were not significantly altered by legal niceties.

Of the legally defined overseas students, 8,108 held awards of one sort or another and 9,052 were studying at the postgraduate level. The postgraduates and undergraduates were more or less equally distributed among the various disciplines. Only 5,037 of the 16,045, however, managed to find accommodation in colleges or halls of residence—the rest were in lodgings or with friends or relatives. Apart from London University, which had 5,210 overseas students, the most popular

Table 1. COUNTRIES SENDING THE LARGEST NUMBER OF OVERSEAS FULL-TIME STUDENTS

Country	Number of full-time students
USA	2,018
India	1,429
Pakistan	899
Canada	784
Norway	678
Nigeria	641

Table 2. CHIEF FIELDS OF STUDY OF OVERSEAS FULL-TIME STUDENTS

Discipline	Number of students
Engineering and technology	4,371
Social, administrative and business studies	3,048
Biological and physical sciences	2,717
Medicine and dentistry	1,727

universities were Oxford with 1,066, Cambridge with 949, Manchester with 941 and Leeds with 674 overseas students.

In addition to full-time students, there were 1,411 overseas students (945 men and 466 women) enrolled for part-time study or research. French and German students formed a far higher proportion of the part-time student population (167 and 158 out of 1,411) than of the full-time student population (72 and 225 out of 16,045).

EXPEDITIONS

Libya Revisited

A DETAILED study of the south-east region of Libya, one of the most arid and remote in the world and still largely unexplored, is to be made by a British team of fifteen civilians and servicemen in 1970. The expedition, led by Major D. N. Hall of the Royal Engineers, will spend about four months in the country, travelling around by Land Rover and camel and on foot, starting first in north-eastern Tibesti and then going east to make a base at Gebel Archenu. There will be three principal projects. One on landforms, led by a geomorphologist, Mr M. A. J. Williams of the Australian National University, will include studies of erosion with reference to past and present climatic changes in this part of the Sahara. The formation and behaviour of sand dunes will be investigated by Dr A. Warren of the University of London, while Mr Jean Maley, of the Muséum National d'Histoire Naturelle at Montpellier, will carry out complementary studies on geology and he will also make pollen analyses. In conjunction with Mr Williams's and Mr Maley's geomorphological and palynological studies, Professor J. Desmond Clark, of the University of California, will look for signs of prehistoric settlements in the area, and particularly for sites of Upper Acheulian (*c.* 100,000–60,000 years BP) and Aterian (*c.* 35,000–12,000 years BP). Selected Neolithic sites will also be excavated. It is also hoped to carry out some detailed mapping.

DEPARTMENT OF EDUCATION

Growth all Round

ALTHOUGH the planned rate of growth of British education was slowed down in 1968, when resources were diverted from home consumption to overseas trade and industrial investment, the report *Education and Science in 1968*, from the Department of Education and Science (HMSO, 14*s* 6*d*), has quite a cheerful tale to tell. The £2,012 million spent on education in Great Britain in 1967–68 was 5·5 per cent of the national resources, compared with 3·5 per cent ten years ago when the figure was £733 million.

The number of qualified teachers in maintained schools in England and Wales reached 316,000 at the beginning of 1968, an increase of 10,500 in one year, and the ratio of pupils to teachers decreased from 24·0 to 23·8 between February 1967 and February 1968 —four years earlier it was 24·5 pupils per teacher. This was in spite of an increase in the population of schoolchildren in England and Wales from 7·99 million to 8·19 million. Recruitment to teacher training is well up to expectations, and with some 105,000 students training outside the universities in England and Wales, the Robbins Committee's estimate of 111,000 places by 1973–74 will be exceeded several years early. An investigation of employment taken up by the 4,266 graduates who qualified as teachers in 1967 showed that 86 per cent were teaching in England and Wales, 3·7 per cent were engaged in voluntary work overseas or on further study, 5·8 per cent were teaching elsewhere and only 3·2 per cent were in other types of employment.

Since 1961 there has been an increase of 31 per cent in the number of students in all kinds of further education; there were 3·2 million of them at the beginning of 1968. This growth includes an all-round trend towards more full-time and sandwich courses, although within further education the fastest growing sector is full-time advanced work. Numbers of mature students also continued to increase, partly because of the opening of another eight college outposts for mature students, bringing the total up to thirty.

The report says that the Department of Education and Science gave special priority to the Natural Environment Research Council and to the Office for Scientific and Technical Information. The latter completed its initial period of rapid growth during 1968, and its annual vote for supported external projects is being increased from £370,000 in 1967–68 to £502,000 in 1968–69. The Social Science Research Council, which does not yet conduct its own research, awarded fifty per cent more fellowships and studentships in 1968 than in 1967. The Science Research Council, which receives more than half of the total science votes, had to devote a disproportionately large part of its grant to international organizations last year as a result of devaluation.

There was also more money for the National Central Library, which acts as a clearing house for inter-library loans. A grant of £201,000 has been made for 1968–69, an increase of £38,000 over the previous year. The money is needed partly to meet increasing requests for books from abroad, particularly from the United States.

CANCER RESEARCH

A New Broom

DR MICHAEL STOKER has not been director of the Imperial Cancer Research Fund's laboratories long enough to effect obvious changes, but the brief statement of the fund's chairman and Dr Stoker's own report in the fund's latest annual report leave no room for doubt about the way the laboratory is going to move. A reasonable proportion of its resources will now be devoted to the molecular biology of cancer.